REMARKS

Claims 577-600 are pending in the present Application. In view of the foregoing amendments and following remarks, Applicant respectfully requests reconsideration of the rejections and allowance of the Application.

Statement of Substance of the Interviews

The undersigned representative engaged in telephonic interviews with Examiner Jeffrey L. Nickerson on April 9, 2009 and April 14, 2009. Applicant and his representative extend their sincere thanks to the Examiner for his time and guidance during the aforementioned interviews.

During the course of the April 9th and April 14th interviews, the discussion was focused mainly on potential claim amendments to overcome the rejections under 35 U.S.C. § 112 ¶ 1 and § 112 ¶ 2. The rejection under 35 U.S.C. § 101 was also discussed. An agreement was reached on an amendment to claim 577 to overcome the § 112 rejections.

Amendments to the Claims

Without conceding to the Examiner's rejections and for the purpose of expediting prosecution, Applicant has amended claims 577, 581, 582, 583, 590, and 600.

Independent claim 577, as amended, includes "outputting the media stream via two or more playback devices in synchrony based on the time differential, the two or more playback devices being in synchrony when a user observing the outputting of the media stream is unable to perceive time-delay

differences between the two or more playback devices." Independent claims 590 and 600 have been amended in a similar, albeit contextually appropriate, manner as claim 577. The amendment to exemplar claim 577 is supported, at least, by paragraphs [0005] and [0196] of the publication of the present Application (*Published Application*, see U.S. Pub. No. 2007/0038999).

Dependent claim 581, as amended, includes "wherein the additional device replaces the source device as a new source device." The amendment to claim 581 is supported, at least, by paragraphs [0026] and [0042] of the *Published Application*.

Dependent claim 582, as amended, includes "wherein the additional device joins the one or more playback devices as a new playback device." The amendment to claim 582 is supported, at least, by paragraphs [0022] and [0039] of the *Published Application*.

Dependent claim 583, as amended, includes "removing a device from the plurality of devices without interrupting the outputting of the media stream via the two or more playback devices." The amendment to claim 583 is supported, at least, by paragraphs [0022] and [0040] of the *Published Application*.

In addition, taking the suggestion of the Examiner (see *Office Action*, 7), Applicant has amended claim 600 to include a "machine readable storage medium," rather than a "machine readable medium." This amendment is supported, at least, by paragraph [0198] of the *Published Application*. Furthermore, claims 577 and 600 have been amended to address informalities.

Applicant reserves the right to pursue any or all of the original claims at a later time, either within the present Application or in future application(s). Applicant does not believe any new matter has been introduced by these amendments.

Rejections under 35 U.S.C. § 112

The Examiner asserts that claims 577-600 are rejected under 35 U.S.C § 112 ¶ 1 as failing to comply with the written description requirement. *Office Action*, 2. In light of the present amendments to the claims, which omit recitation of tightly coupled synchronized playback, Applicant respectfully requests that the rejection under § 112 ¶ 1 be withdrawn.

The Examiner asserts that claims 577-600 are rejected under 35 U.S.C. § 112 ¶ 2 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. *Office Action*, 3.

The Examiner points to the term "tightly coupled synchrony" with respect to claims 577, 590, and 600. *Office Action*, 4. As mentioned, claims 577, 590, and 600 have been amended to omit this terminology. Instead, amended claims 577, 590, and 600 include "the two or more playback devices being in synchrony when a user observing the outputting of the media stream is unable to perceive time-delay differences between the two or more playback devices." Applicant recognizes that synchronization thresholds are well known in the art, that those thresholds may vary, and that various thresholds can be set. Perceived time-delay differences are also well known in the art and may be manifested as echoes, delays, and/or interferences perceived by an observer.

The Examiner asserts that there is ambiguity in claim 577 with respect to the relationship between the source device, the playback devices, and the plurality of devices. *Office Action*, 4-5. Claims 577 and 600 have been amended to include "the source device being one of a plurality of devices," rather than "the source device comprising one of a plurality of devices." Similarly, claims

577 and 600 have been amended to include "each of the one or more playback devices being one of the plurality of devices," rather than "each of the one or more playback devices comprising one of the plurality of devices." Applicant believes any ambiguity with respect to the relationship between the source device, the playback devices, and the plurality of devices has been resolved by the aforementioned amendments to claims 577 and 600.

The Examiner asserts that confusion may arise in claims 581 and 582 with respect to the additional device. *Office Action*, 5. Applicant believes any potential for confusion with respect to the additional device has been sufficiently addressed by the present amendments to claims 581 and 582.

The Examiner asserts that there is ambiguity in claim 583 with respect to the uninterrupted output. *Office Action*, 6. Applicant believes the present amendment to claim 583 resolves any ambiguity with respect to the uninterrupted output.

Based at least on the amendments and remarks herein, Applicant believes the rejection of claims 577-600 under 35 U.S.C. § 112 ¶ 2 is overcome and respectfully requests withdrawal of the same.

Rejections under 35 U.S.C. § 101

The Examiner asserts that claim 600 is rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. *Office Action*, 6. The Examiner states that "[a] claim directed towards 'a machine readable medium …' is **not** statutory." *Office Action*, 6 (emphasis in original). The Examiner then states that "[a] claim directed towards 'a machine readable **storage** medium …' should overcome this rejection." *Office Action*, 7 (emphasis in original). Applicant has amended claim 600 accordingly, as indicated above. Applicant believes one of

ordinary skill in the art, at least in light of paragraph [0198] of the *Published Application*, would not interpret "machine readable storage medium" to include transient signals or signal transmission media. As such, Applicant believes the § 101 rejection is overcome and should be withdrawn.

Rejections under 35 U.S.C. § 103

The Examiner asserts that claims 577, 580-583, 587-590, 592, 594-598, and 600 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Benslimane, "A Multimedia Synchronization Protocol for Multicast Groups" (*Benslimane*) in view of Mills, "Precision Synchronization of Computer Network Clocks"(*Mills*). *Office Action*, 7. Applicant respectfully traverses.

1. *Benslimane* fails to teach or make obvious a source device configured to transmit a media stream comprising source-clock information.

Regarding independent claim 590, the Examiner asserts that *Benslimane* teaches "wherein the source device is configured to transmit a media stream, the media stream comprising **a time differential.**" *Office Action*, 8 (citing the "Sync message's delta" from *Benslimane*, sect. 3.1.1) (emphasis added). Applicant notes that claim 590 actually sets forth "wherein the source device is configured to transmit a media stream, the media stream comprising **source-clock information related to an independent clock associated with the source device**." (Emphasis added). Applicant believes *Benslimane* fails to teach this element or make this element obvious for at least the following reasons.

First, the time differential described in claim 590 is determined by the playback devices based on information included in the media stream (*i.e.*, the source-clock information) and the independent clocks associated with the

playback devices themselves. Therefore, the **time differential** of claim 590 exists at the playback devices and is not comprised by the media stream.

Second, a media stream comprising some particular information, such as the media stream of claim 590, is not equivalent to *Benslimane*'s sync message. *Benslimane*'s sync message is merely a discrete unit of information (*i.e.*, SYNC(δ_i, d_i, τ_s, d^{max})). As thoroughly described in the record, the term 'media stream' is commonly understood as a continuous sequence of audio or audio-and-video through a network. *Benslimane* is silent with respect to the sync message comprising a continuous sequence of audio or audio-and-video, and is silent with respect the sync message being included in a continuous sequence of audio or audio-and-video. Additionally, *Benslimane* explains that "[i]n this paper, message broadcasts between the server and the clients are supposed to be an atomic action where only one message is taken into account and not n." *Benslimane*, sect. 3.

Third, the alleged 'time differential' of *Benslimane* (*i.e.*, the sync message's δ_i) is described as the "difference of time between arrival RESPONSE message from C_i and the one having made the maximum delay." *Benslimane*, sect. 3.1.1. Contrastingly, the time differential set forth in claim 590 is "a time differential between the independent clock associated with the source device and one or more independent clocks associated with the one or more playback devices based on the source-clock information." A time differential between independent clocks of different devices is not disclosed or obvious in view of a difference of time between two messages received by the same device.

Based at least on these remarks, Applicant contends that *Benslimane* fails to teach or suggest "wherein the source device is configured to transmit a media stream, the media stream comprising source-clock information related to an independent clock associated with the source device," as set forth in claim 590.

Furthermore, Applicant believes the Examiner's assertion that *Benslimane* teaches "wherein the source device is configured to transmit a media stream, the media stream comprising a time differential" is moot.

In order "[t]o support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). Since the teachings of *Benslimane* in view of *Mills* fail to disclose or suggest the claimed invention, either expressly or impliedly, the rejection of claim 590 is overcome. Additionally, as independent claims 577 and 600 include similar elements to those of independent claim 590, claims 577 and 600 are likewise patentable for at least the same reasons. Furthermore, as a dependent claim incorporates by reference all the limitations of the claim from which it depends (see 35 U.S.C. § 112 ¶ 4), the rejection of claims 580-583, 587-588, 592, and 594-598 under 35 U.S.C. § 103(a) is overcome for at least the same reasons as the independent claim from which they depend.

2. *Benslimane* fails to teach or make obvious outputting a media stream in synchrony based on a time differential, as set forth in the claims.

Regarding independent claim 590, the Examiner asserts that *Benslimane* teaches "wherein the one or more playback devices output the media stream in tightly coupled synchrony with the one or more playback devices, the tightly coupled synchrony based on the time differential." *Office Action*, 8. Applicant notes that amended claim 590 includes "output[ting] the media stream via two or more playback devices in synchrony based on the time differential." In both cases, however, the synchronous output is based on the time differential. In support of this assertion, the Examiner alleges that sect. 3.1.1. of *Benslimane*

"provides for calculating restitution time based on playback offset differential." *Office Action*, 8.

Applicant believes the Examiner is equating a "playback offset differential" with the time differential of claim 590. Applicant respectfully notes that, in claim 590, the "time differential [is] between the independent clock associated with the source device and one or more independent clocks associated with the one or more playback devices." Furthermore, Applicant observes a contradiction in that the Examiner first equates the time differential of claim 590 with the delta of the sync message (*i.e.*, the "δ_i" in SYNC(δ_i, d_i, τ_s, d^{max})), as discussed above.

Nevertheless, Applicant disagrees that *Benslimane* calculates restitution time based on playback offset differential. *Benslimane* defines restitution time as:

$$T_{resti}^{1} = h_i + d^{\max} - d_i ,$$

where $h_i = s_i + \delta_i + 2 \cdot d_i$. None of the variables that the restitution time is defined by appear to be a playback offset differential. *Benslimane* defines the constituent variables of the restitution time in sect. 3.1.1. as follows:

> s_i = local reception time;
>
> δ_i = difference of time between arrival RESPONSE message from C_i and the one having made the maximum delay;
>
> d_i = delay between the server S and the client C_i; and
>
> d^{max} = the maximum delay of all clients.

Clearly, *Benslimane* does not calculate restitution time based on playback offset differential, but rather as a combination of local receipt times, arrival times, and delays. As such, *Benslimane* fails to teach "output[ting] the media stream … in synchrony based on the time differential," as set forth in claim 590.

In order "[t]o support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). Since the teachings of *Benslimane* in view of *Mills* fail to suggest the claimed invention, either expressly or impliedly, the rejection of claim 590 is overcome. Additionally, as independent claims 577 and 600 include similar elements to those of independent claim 590, claims 577 and 600 are likewise patentable for at least the same reasons. Furthermore, as a dependent claim incorporates by reference all the limitations of the claim from which it depends (see 35 U.S.C. § 112 ¶ 4), the rejection of claims 580-583, 587-588, 592, and 594-598 under 35 U.S.C. § 103(a) is overcome for at least the same reasons as the independent claim from which they depend.

3. The combination of *Benslimane* and *Mills* would not be likely or obvious to one of ordinary skill in the art.

The Examiner asserts that "[i]t would have been obvious to one of ordinary skill in the art ... to utilize the teachings of Mills ... implemented in the Benslimane system." *Office Action*, 9. Applicant respectfully disagrees.

Benslimane explains that "[f]our sources of asynchrony can disrupt synchronization: delay jitter, local clock drift, different collection times and different initial playback times." *Benslimane*, sect. 1. *Benslimane* further notes that, "[i]n this work, we are interested in delay jitter networks ... [wherein] [d]elay jitter is the variation in the delays experienced by packets transmitted across a network." *Benslimane*, sect. 1. *Mills*, on the other hand, is directed to minimizing relative clock drift between networked computers. See, *e.g.*, *Mills*, Abstract. Since *Benslimane* and *Mills* do not address the same types of

asynchrony, it would not be obvious to one of ordinary skill in the art to combine the teachings of *Benslimane* and *Mills*. As such, the § 103 rejection is overcome.

4. *Mills* is nonanalogous to the subject matter set forth in the claims.

MPEP § 2141.01(a) I provides that in order "to rely on a reference under 35 U.S.C. 103, it must be analogous prior art." The Examiner asserts that *Mills* is "in a similar field of endeavor." *Office Action*, 8. Applicant respectfully disagrees. *Mills* is merely directed toward precisely synchronizing computer network clocks, as indicated by the Title, Abstract, and elsewhere throughout *Mills*. The present claims, in contrast, are directed toward systems, methods, and machine readable storage media for synchronizing media playback. The court has found "similarities and differences in structure and function of the inventions to carry ... great[] weight" in evidencing 'nonanalogy' or 'analogy.' *In re Ellis*, 476 F.2d 1370, 1372, 177 USPQ 526, 527 (CCPA 1973). Since *Mills* is clearly nonanalogous to the inventions set forth in the claims, Applicant contends that *Mills* cannot be relied upon to support a rejection under 35 U.S.C. § 103(a).

5. Claims depending from allowable claims are likewise allowable.

The Examiner asserts that claims 578, 579, 591, and 599 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Benslimane* in view of *Mills*, and further in view of Official Notice. *Office Action*, 12. The Examiner also asserts that claims 584, 585, and 593 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Benslimane* in view of *Mills*, and further in view of U.S. Pub. No. 2004/0203378 (*Powers*). *Office Action*, 13. Applicant respectfully traverses. 578, 579, 584, 585, 591, 593, and 599

Applicants respectfully disagree with the Examiner's rejection of claims 578, 579, 584, 585, 591, 593, and 599, in that claims 2578, 579, 584, 585, 591, 593,

and 599 depend from otherwise allowable claims as discussed in detail herein. "A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." 35 U.S.C. § 112 ¶ 4. As such, Applicant contends that dependent claims 578, 579, 584, 585, 591, 593, and 599 are allowable over the cited references for at least the same reasons as the independent claim from which they depend.

CONCLUSION

The rejection of claims 577-600 under 35 U.S.C. § 112 ¶ 1 is overcome because claims 577-600 comply with the written description requirement, at least, in light of the present amendments to the claims. The rejection of claims 577-600 under 35 U.S.C. § 112 ¶ 2 is overcome in that claims 577-600 particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The rejection of claim 600 under 35 U.S.C. § 101 is overcome because claim 600, as amended, is directed to statutory subject matter.

The rejection of claims 577-600 under 35 U.S.C. § 103(a) is overcome because the cited references fail to teach or make obvious each and every claimed element. Additionally, combining the references would not be obvious to one of ordinary skill in the art. Furthermore, the *Mills* reference is nonanalogous.

Based on the foregoing remarks, Applicant believes the rejections to the claims have been overcome, and that the present application is in condition for allowance. The Examiner is invited to contact Applicant's undersigned representative with any questions concerning this matter.

Respectfully submitted,
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